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May 2003

Venezuela

Venezuela is important to world energy markets because it holds proven oil reserves of 77.8 billion barrels, including billions of barrels of extra-heavy oil and bitumen. Venezuela consistently ranks as one the top suppliers of U.S. oil imports and is among the top ten crude oil producers in the world.

Note: information contained in this report is the best available as of May 2003 and can change.

GENERAL BACKGROUND

After a period of modest economic growth in 2000 and 2001, the Venezuelan economy entered into recession in 2002. A loss of business confidence and the devaluation of the Venezuelan Bolívar started the country's economic downturn. Political conflict, particularly the nationwide strikes last December and January, further compounded the dire situation of the country's economy. As a result, Venezuela's real gross domestic product (GDP) in 2002 fell by an estimated 8.9%.

On December 2, 2002, opponents of President Chávez organized a nationwide strike to call for an early referendum on the President's rule. In mid-December, the strikers shut down a large portion of the country's oil industry, drastically reducing the production of Venezuelan oil and its delivery to internal and external markets. President Chávez declared the strikers' demands unconstitutional and enlisted the help of the military to maintain production.

Although the general work stoppage ended on February 3, 2003 in non-oil sectors, there has been no resolution of the strike in Venezuela's oil sector, now in its sixth month. As of May 2003, Venezuelan crude oil production is widely believed -- by striking workers and independent analysts -- to be around 2.6 million barrels per day. In contrast, state oil company Petroleos de Venezuela S.A. (PdVSA) estimates current production at over 3 million barrels per day, close to pre-strike output levels. Venezuela's oil production has increased in recent months despite the dismissal of more than one-third of PdVSA's work force. U.S. crude oil imports from Venezuela have also continued climbing toward a more normal level.

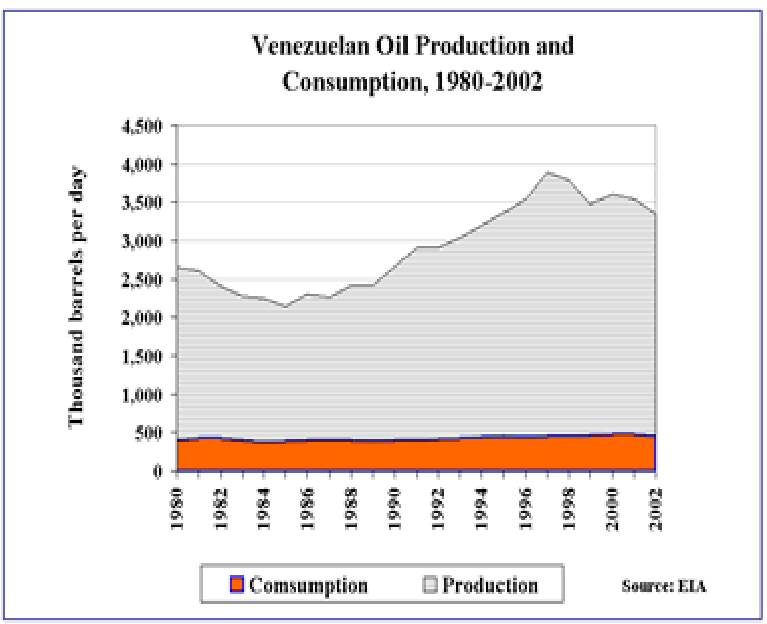
The petroleum industry is the mainstay for Venezuela's economy, accounting for more than three-quarters of total Venezuelan export revenues, about half of total government revenues, and about one-third of GDP. In February 2003, PdVSA had to drawdown $1.1 billion from its share in Venezuela's Macroeconomic Stabilization Fund (FIEM) to pay for gasoline imports, as well as to pay foreign companies that were operating in its fields. The FIEM fell to $3.3 billion in early October 2002, down $6.2 billion from the start of the year. The Venezuelan government created the fund to provide a cushion during hard economic times.

Since January 2003, President Chávez has expanded his administration's control over the economy by banning foreign-currency trading and imposing price controls on a number of products. Chávez has also been pressuring the Venezuela's central bank to reduce interest rates, and has indicated that he would like to restructure external debt under more favorable terms.

Venezuela's opposition movement continues to push for a constitutional referendum on Chávez's presidency. The country's constitution allows Venezuelans to petition for a referendum on whether a president should step down, after the midpoint of the president's six-year term. However after months of talks among Venezuelan government, the opposition, and diplomatic representation led by the "Group of Friends," which includes Brazil, Chile, Mexico, Portugal, Spain and the United States, the Organization of American States (OAS) and the Carter Center, relevant parties have been unable to reach an agreement to stage a referendum this year. The midpoint of Chavez's presidency is in August 2003.

OIL

Venezuela is home to the Western Hemisphere's largest conventional proven oil reserves at 77.8 billion barrels, as of January 2003. Substantial extra-heavy oil and bitumen deposits are not included in this total. In 2002, Venezuela produced an estimated 2.9 million barrels per day (bbl/d), down almost 200,000 bbl/d from 2001 annual production figures. Of this 2.9 million bbl/d, about 453,000 bbl/d were consumed domestically, while the remaining 2.3 million bbl/d were exported. About 1.4 million bbl/d (62% of total exports) were shipped directly to the United States in 2002 (note: this does not count crude oil sent to the Caribbean, refined there, and then re-exported to the United States).



Over the past several years, Venezuela has ranked consistently as one of the four top sources of U.S. oil imports (along with Canada, Mexico, and Saudi Arabia). Venezuelan exports to the United States peaked in 1997 at about 1.8 million bbl/d. While total U.S. petroleum imports have risen by about 1.2 million bbl/d since 1997, imports from Venezuela have decreased by about 390,000 bbl/d. In 1997, Venezuelan oil accounted for more than 19% of total U.S. oil imports, compared to just 13% in 2002.

Besides being a major supplier to the United States, Venezuela also provides significant quantities of oil to its neighbors. Under the auspices of the San Jose Accord, Venezuela and Mexico provide eleven Central American and Caribbean nations with a total of 160,000 bbl/d of crude oil and products under preferential terms. The San Jose Accord was originally implemented in 1980 and is renewed annually. In addition, Venezuela supplies Cuba with 53,000 bbl/d of oil on favorable financing terms under an agreement signed between President Hugo Chávez and Cuban President Fidel Castro in 2000. Trade with Cuba has at times been contentious, and oil shipments to Cuba were temporarily halted after the attempted coup in April 2002 that briefly ousted President Chavez. Shipments to Cuba resumed in September 2002.

Venezuela also supplies major Caribbean refineries with significant quantities of crude oil, the two largest being the 525,000-bbl/d Hovensa refinery on St. Croix (owned by PdVSA and Amerada Hess Corporation), and the 320,000-bbl/d Isla Refinery on Curacao (operated by PdVSA). Most of the Venezuelan crude processed at these refineries is then marketed for export, with an estimated 200,000-300,000 bbl/d going to the United States.

PdVSA

Venezuela nationalized its oil industry in 1975-1976, creating Petroleos de Venezuela S.A. (PdVSA), the country's state-run oil and gas concern. PdVSA is one of the world's largest oil companies, as well as Venezuela's largest business and employer. PdVSA works with foreign investors in Venezuela under the country's hydrocarbons law of November 2001, which stipulates that PdVSA hold a 51% stake in any new exploration and production agreement. The privatization of PdVSA is banned under Venezuela's 1999 constitution.

Political Role

PdVSA also plays an important role in Venezuelan politics. Along with being Venezuela's largest employer and responsible for approximately one third of the country's GDP, PdVSA is run by presidential appointees. Since taking office in 1998, Chávez has appointed five different directors of PdVSA. A previous attempt by Chávez to place political allies in top PdVSA positions resulted in a coup that briefly forced him out of office in April 2002. Management and laborers at PdVSA played a critical role in the brief overthrow of President Chávez. Ali Rodriguez is the current president of PdVSA.

Recent Strike

On December 2, 2002, PdVSA employees, along with business leaders, labor unions and opposition parties, launched a strike to back up demands that President Chávez resign or hold early elections. The strike crippled Venezuela's oil industry. On December 5, PdVSA declared force majeure on the export of petroleum products and on December 9, the Venezuelan National Guard took over gasoline distribution throughout the country. In addition, seven of PdVSA's eight highest executives, except Ali Rodriguez, submitted their resignations to President Chávez.

The strike paralyzed PdVSA's operations, with many wells being unmanned, refineries operating at partial capacity, and oil tankers waiting at sea to berth. Crude oil production dropped from 2.9 million bbl/d in November 2002 to about 600,000 bbl/d in January 2003. The loss of Venezuelan crude compelled OPEC to increase production in order to offset losses to the world oil market. The strike also forced the government to import oil products for domestic use, as well as to cut its budget due to the loss of the monthly oil revenue that it normally received from PdVSA. International companies, which have operations in Venezuela, also lost millions of dollars due to the political unrest. President Chávez reacted to the PdVSA strikes by dismissing nearly 17,000 employees.

In January 2003, the Venezuelan government decided to restructure PdVSA, splitting the company into two regional operating units: one responsible for all activities in the eastern Venezuela and the other, for activities in the western part of the country. The goal of the reorganization, according to PdVSA, was to decentralize the company and make it more efficient.

Resumption of Operations
As of May 2003, the Venezuelan government has made progress in returning oil production to pre-strike levels. Government and opposition sources continue to cite widely varying figures for the country's current oil production. Many observers put current output at 2.6 million bbl/d while PdVSA claims that production levels are over 3.0 million bbl/d. More than one-third of the company's employees have been terminated since the beginning of the strike, and President Hugo Chávez has said that they would not be rehired. The 1.3 million bbl/d Venezuela refining network is nearing full capacity after several months of partial operation.

In sum, the current status of PdVSA and Venezuela's oil industry remains unclear. According to many observers, it will most likely take PdVSA some time to restore fully its production activities on account of damage to reservoirs and equipment, lack of funds for sufficient investment particularly from foreign investors and the hiring of less experienced and qualified staff.

Venezuela and OPEC
Venezuela, a founding member of the Organization of Petroleum Exporting Countries (OPEC), regularly exceeded its OPEC-agreed oil production targets prior to President Chávez's December 1998 election. In a major policy reversal for Venezuela, the Chávez administration negotiated with Saudi Arabia and non-OPEC member Mexico to rein in production. These negotiations precipitated the 1998-1999 OPEC production cuts that saw oil prices rebound in 1999, after hitting historic lows.

Since his election, Chávez has maintained a policy of strict adherence to OPEC quotas. This requires PdVSA to shut in production, fill storage facilities, cut production at existing fields, and reducing investment and total production capacity. However, according to the government, PdVSA has been producing since March 2003 above its OPEC quota to make up for some of the production lost during the strike. The government indicated in late May 2003 that it would be willing to reduce its oil production at OPEC's upcoming meeting on June 11, 2003 in Doha, Qatar.

In the past, PdVSA has adjusted its own production to ensure that Venezuela as a whole meets its OPEC production targets. Thus, during periods of OPEC production cuts, private companies operating in joint ventures with PdVSA were able to maintain steady output. However, that policy has changed, as some private producers have been asked to hold in production. U.S. refiner Lyondell is suing PdVSA, charging that the company violated a crude oil supply agreement. Lyondell is seeking $90 million for a 30-million-barrel deficit in PdVSA deliveries to the refinery between April 1998 and September 2000. PdVSA enacted the cut to aid in OPEC compliance

Exploration and Production
Venezuela has four major sedimentary basins: Maracaibo, Falcon, Apure and Oriental. These fields contain reserves of 77.7 billion barrels of conventional oil, most of which has an API gravity of less than 20 degrees, making Venezuela's conventional crude oil heavy by international standards. Due to the maturity of many of these basins and their declining productivity, PdVSA plans to spend $45 billion to increase production at the country's existing oil wells, as well as to develop new non-conventional extra heavy crude oil and natural gas resources.

Venezuela would like to raise oil production to 5.1 million bbl/d by 2008. In order to achieve this goal, the government plans to launch a new licensing round in order to achieve this goal and will most likely need to attract significant amounts of foreign investment, particularly in the wake of lost oil revenue from the strikes.

Recent Developments

PdVSA announced in early May 2003 that it made two significant oil discoveries, which could raise reserves by 1 - 2.4 billion barrels. PdVSA's exploration division made both discoveries in the Chaguaramal and Furrial fields in the eastern state of Monagas. ConocoPhillips, along with PdVSA, AGIP, and OPIC Karimun Corporation, received approval in April 2003 to develop the Corocoro field in the Gulf of Paria in western Venezuela. The group plans to invest $480 million to produce eventually 55,000 bbl/d.

Extra Heavy Crude Oil

Venezuela contains billions of barrels in extra-heavy crude oil and bitumen deposits, most of which are situated in the Orinoco Belt, located in Central Venezuela (estimates range from 100 - 270 billion barrels of recoverable reserves). There are four congressionally approved joint ventures between PdVSA and foreign partners to develop extra-heavy crude oil. Thel four projects which are at different stages of development aim to convert the extra heavy crude from approximately 9° API crude to lighter, sweeter synthetic crude, known as syncrude. These projects normally produce about 450,000 bbl/d of synthetic crude oil (this is expected to increase to 700,000 bbl/d by 2005), much of which is destined for the U.S. Gulf Coast. Syncrude is considered by the International Energy Agency (IEA) as"non-conventional crude oil."

Source: Conoco

Conoco's Petrozuata produces extra-heavy crude oil from the Zuata region of the Orinoco Belt for transport to the port of Jose on Venezuela's northern coast. Conoco owns and operates two parallel 130-mile pipelines with a total capacity of 200,000 bbl/d to transport production from its wells and others in the region. Heavy crude oil is blended with a lighter crude oil for pipeline transportation to an upgrading facility. The upgrading facility processes the heavy oil into a higher value synthetic crude oil (with an API range between 19° and 25°), and associated byproducts: LPG; sulfur; petroleum coke and heavy gas oil. As production increases, pipeline capacity could be expanded to 500,000 bbl/d. Since 1997, Petrozuata has drilled more than 320 wells in 55,000 acres of the Zuata region, and production is currently 120,000 bbl/d.

ExxonMobil and PdVSA's joint venture at the Cerro Negro extra-heavy oil field started production in 2001. Extra-heavy crude oil from Cerro Negro is diluted with naptha and routed northward via pipeline to an upgrader complex at the port of Jose. The project's upgrader at the Jose complex processes 120,000 bbl/d of extra heavy crude oil into approximately 108,000 bb/d of syncrude and byproducts (sulfur and petroleum coke). Some of the syncrude is then exported to the partners' 180,000-bbl/d Chalmette refinery, located in Louisiana, near New Orleans, where the oil is refined and sold in U.S. markets. Germany's Veba Oil and Gas was also a 16% partner in the upstream component of the project. In May 2002, Petro-Canada acquired Veba. Petro-Canada, however, has not yet acquired ownership of Veba's Venezuelan assets. Exxon announced in May 2003 that it would like to increase production by 10% to 20%.

TotalFinaElf and ***Statoil*** are partners with PdVSA in the Sincor project, which began production in February 2002 and has been producing about 140,000-160,000 bbl/d of oil in recent months.

Production is expected to plateau at 200,000 bbl/d, with about 35 years of operation. Sincor's extra-heavy crude is upgraded at a facility in the Jose complex, and then marketed for export, similar to the Petrozuata and Cerro Negro projects. Sincor's syncrude output comes in two grades, Zuata Sweet and Zuata Medium.

ConocoPhillip's and ***ChevronTexaco's*** joint venture with PdVSA, the Hamaca project, came onstream in November 2001 and is currently producing about 30,000 bbl/d of extra-heavy crude, most of which is diluted and shipped to refineries in the United States. Peak production of about 190,000 bbl/d is expected after an upgrading facility at the Jose complex is completed in early 2004. The crude will be upgraded to about 26° API, and the field is expected to pump for about 34 years.

Orimulsion

Orimulsion is a branded product that is used as a boiler fuel, similar to #6 fuel oil. It is an emulsion of approximately 70% natural bitumen, 30% water, and less than 1% surfactants (emulsifiers). Bitumen is considered a non-oil hydrocarbon and is not counted towards Venezuela's OPEC crude oil production quota. Burning Orimulsion in conventional power plants produces emissions of carbon dioxide, sulfur dioxide, and nitrogen oxide roughly similar to emissions from fuel oil.

Bitor, a PdVSA subsidiary, manages the processing, shipping and marketing of Orimulsion. Bitor now operates one Orimulsion plant in Cerro Negro, with a capacity of 5.2 million metric tons per year, and hopes to produce 20 million metric tons per year by 2006. According to Bitor, more than 1.2 trillion barrels of bitumen exist in the Orinoco Belt. Economically recoverable reserves are now estimated at about 267 billion barrels. Canada, China, Denmark, Guatemala, Italy, Japan, South Korea and Lithuania either consume or are considering consuming Orimulsion.

Refining

PdVSA operates one of the Western Hemisphere's largest refining systems and is one of the world's largest oil refiners. Domestic refinery capacity stands at about 1.3 million bbl/d, with significant additional holdings in Curaçao, the United States (in Lake Charles, Lemont, Corpus Christi, Paulsboro, Savannah, and Lyondell), and Europe (in Germany, Sweden, Belgium, and the United Kingdom). About one-third of Venezuela's refined product exports are sold to the United States, where they are distributed mainly by Tulsa-based Citgo, PdVSA's U.S. refining and marketing subsidiary, and one of the largest U.S. gasoline retailers.

NATURAL GAS

Venezuela has proven natural gas reserves of about 148 trillion cubic feet (Tcf), the second largest in the Western Hemisphere (behind the United States) and the eighth largest in the world. The country produced about 1.1 Tcf in 2001, all of which was consumed domestically. About 60% of the country's natural gas production is consumed by the oil industry, which either re-injects the gas into oil fields or flares it. About 10% of Venezuela's natural gas is used for power generation; 6% in petrochemical production; and the rest is used mainly by industrial or commercial customers in large cities. The Chávez administration has plans to increase both natural gas production and consumption.

Sector Organization: PdVSA and Private Companies

The natural gas unit of PdVSA has traditionally monopolized Venezuelan natural gas production, allowing for only a few joint ventures. However, in August 1999, legislation opened up the country's natural gas sector to foreign investment in exploration and production, distribution, transmission, or gasification (although no company would be allowed to explore, produce, and transport in the same region). Venezuela held its first non-associated natural gas exploration licensing round in 2001.

Exploration and Production

In February 2003, PdVSA selected ChevronTexaco and Statoil to operate two of its five offshore blocks located in the Deltana Platform. The Deltana Platform, which borders Trinidad's maritime border, is estimated to contain up to 40 Tcf of natural gas. ChevronTexaco will operate Block 2, the Loran field. Statoil will operate Block 4, Cocuina field. PdVSA expects to reveal soon a new bidding round for the remaining three blocks - 1, 3, and 5. The company also has plans to open other bidding rounds for certain onshore tracts and for acreage in Lake Maracaibo.

Recent Developments

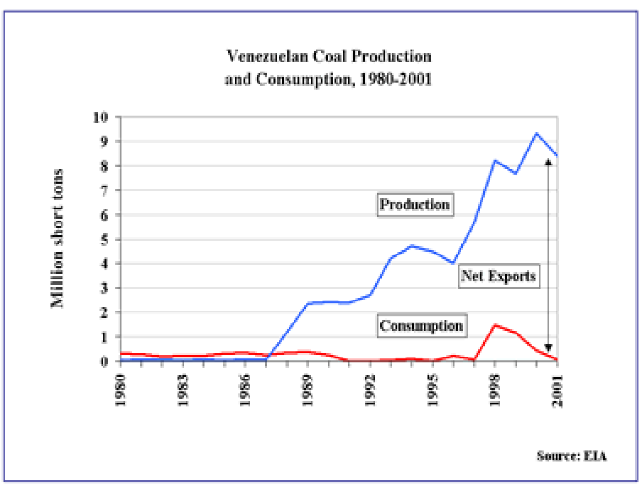
PdVSA announced in early May 2003 that its exploration division discovered a natural gas reserve of 2.5 to 3 Tcf at Urica, on the border of the eastern states of Monagas and Anzoategui. PdVSA plans to develop the well itself.

LNG

In December 2002, PdVSA, Royal Dutch/Shell, and Mitsubishi signed a preliminary development agreement to begin an initial feasibility study for the Mariscal Sucre Liquefied Natural Gas (LNG) project that would be fed by natural gas reserves off the Paria peninsula, as well as the Deltana Platform. However, recent political unrest has hindered progress on the project. Venezuela has also been in negotiations with Trinidad to develop and possibly combine the two countries' gas reserves in the region, a process called unitization. Unitization is an agreement focusing on setting acceptable parameters for sharing the resources to optimize production while avoiding damaging the reserve. These negotiations, however, have bogged down.

Pipelines

In April 2003, Colombia and Venezuela agreed to build a $120 million pipeline, allowing Colombia to export natural gas from the Guajira basin to the Maracaibo region of Venezuela. The $120 million natural gas pipeline would carry between 150 and 200 million cubic feet per day beginning in 2005. PdVSA has indicated that Venezuela would eventually use the pipeline to export natural gas to Colombia. Existing Venezuelan natural gas infrastructure consists of 3,000 miles of domestic pipeline.



COAL

Venezuela has recoverable coal reserves of approximately 528 million short tons (Mmst), most of which is bituminous. Venezuela is the second largest producer of coal in Latin America, after Colombia. Coal production in 2001 amounted to 8.9 Mmst, almost all of which was exported to other countries in the region, the eastern United States, and Europe. Domestic coal consumption in 2001 was about 74,000 short tons.

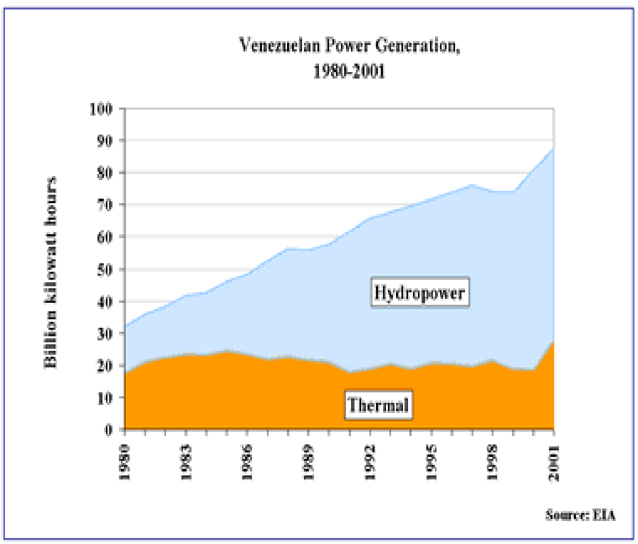
The Guasaré Basin, near the Colombian border, is the major coal producing region in Venezuela. Coal production has been limited during the last several years by infrastructure and transportation constraints. The government announced in April 1999 intentions to increase production of high-quality coal to 21 million tons per year by 2008. Venezuela's coal sector is dominated by Carbozulia, which is owned by PdVSA.

ELECTRICITY

Venezuela has about 21 gigawatts (GW) of electric generating capacity. Venezuela has one of the highest electrification rates in Latin America at over 90%. Venezuelans also are the highest per capita users of electricity in Latin America. The country generated 87.6 billion kilowatthours of electricity generation in 2001, 68% of which was hydropower, while the remainder was oil- and, to a smaller extent, natural gas-fired. Venezuela is home to the world's second largest operational hydroelectric dam (after Itaipu in Paraguay/Brazil), the 10,000-megawatt (MW) Raul Leoni dam on the Caroní River. Venezuela's grid is joined with Colombia, allowing trade between the two countries. In August 2001, an electricity interconnection between Venezuela and Brazil was inaugurated at Santa Elena de Uairen, Venezuela. The transmission line links Santa Elena de Uairen to Boa Vista in Brazil.

Sector Organization

The Venezuelan electricity sector is a mixture of state-owned utilities, comprising the majority of the sector, and some private companies. EDELCA is the largest generation company in Venezuela, generating over 70% of the country's electricity. EDELCA operates the Guri plant (Raul Leoni dam) on the Caroní river, with an installed capacity of 10,000 MW and the 3,080-MW Macagua plant. EDELCA is also developing two new facilities on the Caroní River; Caruachi and Tocoma. The 2,160-MW Caruachi plant, located between Guri and Macagua, began partial operation in 2003. The Caruachi dam will not be completed until 2010. The 2,160-MW Tocoma hydroelectric dam will be EDELCA's fourth dam on the Caroní River and is scheduled to be completed by 2010. Venezuela's second largest state generating company is Cadafe. The country's largest private sector generating company is ELECAR.



Electric sector privatization was underway when the current administration came into power. As a final preparatory step before sales commence, the government had planned to "unbundle" electricity companies by September 2001, separating firms into generation, transportation, distribution, and marketing units. This unbundling now has been delayed indefinitely.

Generation Disruptions

After a decade of under-investment in Venezuela's electricity sector, the country is now facing a potential electricity crisis. The immediate reasons for the power shortfall include reduced hydropower capacity and electricity theft. Low rainfall levels have decreased hydropower capacity (as in neighboring Brazil), with diminished levels in reservoirs. The water level at the Guri dam recently rose a few centimeters for the first time since October 2002. Low water levels reportedly resulted in six significant power failures in 2002, and the frequency of outages has increased so far in 2003. Fossil fuel-fired generation is not expected to be able to make up the difference. Rampant electricity theft also is straining the infrastructure, with illegal hookups accounting for an estimated quarter of Venezuela's total consumption. The government has introduced a campaign to urge citizens and companies to reduce electricity consumption.

ENVIRONMENT

Venezuela's environmental problems include pollution and deforestation. Pollution from energy production and consumption is high relative to Venezuela's neighbors, as production is the mainstay of its economy and consumption is heavily subsidized. Therefore, it emits more carbon than many of its neighbors. Its use of non-hydro renewable energy sources is low. Addressing the high levels of energy intensity and pollution will present major environmental challenges for Venezuela.

COUNTRY OVERVIEW
President: Hugo Chávez Frías (since December 1998)
Independence: July 5, 1811 (from Spain)
Population (2002E): 22.4 million
Location/Size: Northern South America/352,144 square miles, slightly more than twice the size of California
Major Cities: Caracas (capital), Maracaibo, Valencia, Maracay, Barquisimento
Languages: Spanish (official), Indian dialects in the interior
Ethnic Groups: Spanish, Italian, Portuguese, Arab, German, African, indigenous people
Religions: Roman Catholic (96%), Protestant (2%)
Defense (8/98): Army (34,000), Navy (15,000, including 5,000 Marines), Air Force (7,000), National Guard (23,000)

ECONOMIC OVERVIEW
Minister of Finance: Tobias Nobrega Suarez
Currency: Bolívar
Exchange Rate (5/15/03): US$1 = 1,599.5 Bolívars
Gross Domestic Product (2002E): $103 billion
Real GDP Growth Rate (2002E): -8.9% **(2003F):** -10.0%
Inflation Rate, % change in consumer prices (2002E): 22.4% **(2003F):** 37.0%
Unemployment Rate (2002E): 15.5%
Merchandise Exports (2002E): $26.2 billion
Merchandise Imports (2002E): $12.3 billion
Current Account Balance (2002E): $7.6 billion
Major Trading Partners: United States, Colombia, Germany, Japan, Canada, and Italy
Major Export Products: Petroleum and derivatives (80%), aluminum (4%)
Major Import Products: Capital goods (20%), consumer goods (20%), and raw materials (60%)
Foreign Debt (2002E): $38 billion

ENERGY OVERVIEW
Minister of Energy and Mines: Rafael Ramirez
Head of PdVSA: Ali Rodriguez
Proven Oil Reserves (1/1/03E): 77.8 billion barrels (not including extra-heavy oil and bitumen)
Oil Production (2002E): 2.9 million barrels per day (bbl/d), of which 2.56 million bbl/d was crude
OPEC Crude Oil Production Quota (effective 6/1/03): 2.923 million bbl/d
Oil Consumption (2002E): 453,000 bbl/d
Net Oil Exports (2002E): 2.3 million bbl/d
Crude Oil Refining Capacity (1/1/03): 1.28 million bbl/d in Venezuela, with almost 2 million bbl/d of capacity in the Caribbean, the United States and Europe
Major Crude Oil Customers: United States, Canada, Germany, Spain
Oil Exports to the United States (2002E): 1.4 million bbl/d (not counting around 200,000-300,000 bbl/d of Venezuelan crude refined in the Caribbean and then sent to the United States)
Natural Gas Reserves (1/1/03E): 148 trillion cubic feet (Tcf)
Natural Gas Production/Consumption (2001E): 1.1 Tcf
Coal Reserves (2001E): 528 million short tons (Mmst)
Coal Production (2001E): 8.4 Mmst
Coal Consumption (2001E): 0.07 Mmst
Electric Generation Capacity (2001E): 21 gigawatts

Electricity Production (2001E): 87.6 billion kilowatthours (68% hydroelectric and 32% thermal)

ENVIRONMENTAL OVERVIEW
Minister of Environment and Natural Renewable Resources: Ana Elisa Osario
Total Energy Consumption (2001E): 2.95 quadrillion Btu* (0.7% of world total energy consumption)
Energy-Related Carbon Emissions (2001E): 38.6 million metric tons of carbon (0.6% of world total carbon emissions)
Per Capita Energy Consumption (2001E): 119.9 million Btu (vs U.S. value of 341.8 million Btu)

Per Capita Carbon Emissions (2001E): 1.6 metric tons of carbon (vs U.S. value of 5.5 metric tons of carbon)
Energy Intensity (2001E): 35,984 Btu/$1995 (vs U.S. value of 10,736 Btu/$1995)**
Carbon Intensity (2001E): 0.47 metric tons of carbon/thousand $1995 (vs U.S. value of 0.17 metric tons/thousand $1995)**
Fuel Share of Energy Consumption (2001E): Natural Gas (45%), Oil (34%), Coal (0.07%)
Fuel Share of Carbon Emissions (2001E): Natural Gas (55%), Oil (45%), Coal (0.13%)
Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified December 28th, 1994). Not a signatory to the Kyoto Protocol.
Major Environmental Issues: sewage pollution of Lago de Valencia; oil and urban pollution of Lago de Maracaíbo; deforestation; soil degradation; urban and industrial pollution, especially along the Caribbean coast.
Major International Environmental Agreements: A party to Conventions on Biodiversity, Climate Change, Desertification, Endangered Species, Hazardous Wastes, Marine Life Conservation, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling. Has signed, but not ratified, Marine Dumping.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP based on EIA International Energy Annual 2001

OIL AND GAS INDUSTRIES
Organization, *Oil and Natural Gas:* Petroleos de Venezuela, S.A. (PdVSA, state-held), with some foreign companies involved in joint ventures; *Coal:* Carbozulia, owned by PdVSA, with some foreign companies involved in joint ventures; *Electricity:* Several state-held and private utilities
Major Foreign Oil Company Involvement: BP, Chevron, CNPC (China), Conoco, ExxonMobil, Pennzoil, Phillips, Repsol-YPF, Shell, Statoil, Texaco, TotalFina, Union Texas, and Petro-Canada
Major Domestic Refineries (crude capacity-bbl/d) (1/1/03), PdVSA: El Palito, Puerto Cabello (126,900), Puerto de la Cruz (195,000), San Roque, Anzoategui (5,200); **Paraguana Refining Center:** Cardon/Judibana, Falcon (940,000), Maracaíbo, Zulia (15,000)

Sources for this report include: Argus LatAm Energy; BBC Worldwide Monitoring; Cambridge Energy Research Associates; CIA World Factbook; Economist Intelligence Unit ViewsWire; Energy Day; Electric Utility Week; Financial Times; Gas-to-Liquids News; Global Insight; Global Power Report; Journal of Commerce; Lloyd's List; Latin America Monitor; Latin America Economic Outlook; Latin Finance; New York Times; Oil and Gas Journal; Oil Daily; Petroleum Economist;

Petroleum Finance Week; Petroleum Intelligence Weekly; Platt's Oilgram News; Power Engineering International; U.S. Energy Information Administration; World Gas Intelligence; World Markets Analysis; World Oil.

LINKS

For more information on Venezuela, see these other sources on the EIA web site:

International Petroleum Monthly - EIA's latest monthly international petroleum data
EIA - Country Information on Venezuela
EIA OPEC Fact Sheet

Links to other U.S. government sites:

U.S. Embassy in Caracas, Venezuela
CIA World Factbook - Venezuela
U.S. Department of Energy's Office of Fossil Energy's International section - Venezuela
U.S. State Department's Consular Information Sheet - Venezuela
U.S. State Department Background Notes - Venezuela
Information from the U.S. International Trade Administration

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Venezuela's Mining Industry
Bitor: Orimulsion
LatinWorld's section on Venezuela
Latin America Network Information Center (LANIC) - Venezuela
Petroleum Guide for Venezuela
Venezuela Oil and Energy
Inter-American Development Bank
World Bank - Venezuela
OPEC
Venezuelan Embassy in Washington, D.C.
Organization of American States (OAS)
Political Database of the Americas
The Latin American Integration Association (ALADI)
The Economic Commission for Latin America and the Caribbean (ECLAC)
Petroleum World.com -- Venezuela Oil and Gas

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